Liikluse reguleerimise vahendid. Signaalseadmed

Traffic control equipment - Signal heads

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 12368:2006 sisaldab Euroopa standardi EN 12368:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 29.05.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 12368:2006 consists of the English text of the European standard EN 12368:2006. This document is endorsed on 29.05.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard only applies to red, yellow and green signal lights for road traffic with 200 mm and 300 mm roundels. It defines the requirements for the visual, structural, environmental performances and testing of signal heads for pedestrian and road traffic use. Portable signal lights are specifically excluded from the scope of this European Standard.	**Scope:** This European Standard only applies to red, yellow and green signal lights for road traffic with 200 mm and 300 mm roundels. It defines the requirements for the visual, structural, environmental performances and testing of signal heads for pedestrian and road traffic use. Portable signal lights are specifically excluded from the scope of this European Standard.

ICS 93.080.30

Võtmesõnad:

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12368

April 2006

ICS 93.080.30

Supersedes EN 12368:2000

English Version

Traffic control equipment - Signal heads

Equipement de régulation du traffic - Signaux

Anlagen zur Verkehrssteuerung - Signalleuchten

This European Standard was approved by CEN on 27 February 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Ref. No. EN 12368:2006: E

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Foreword

This European Standard (EN 12368:2006) has been prepared by Technical Committee CEN/TC 226 “Road equipment”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2006, and conflicting national standards shall be withdrawn at the latest by January 2008.

This European Standard supersedes EN 12368:2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

Signal heads are mainly used to transfer safety messages to the road user to achieve specific reactions. Signal heads in road traffic transfer this information optically by signal lights which have a specific meaning and which differ in their colour of light and in the design of their illuminating surface.

The visibility of a signal light depends on the colour, luminous intensity, luminous intensity distribution, luminance and luminance uniformity, the surrounding luminance (background luminance), the size of the illuminating area of the signal light, the phantom light and the distance and angle between observer and signal head.

Four angular distributions of luminous intensities for signal lights are specified. The user can choose between an extra wide, wide, medium and narrow beam signal to obtain a good recognition of the signal for short distances in urban areas, for long distances in rural areas. To achieve a good performance the standard provides a number of different performance levels and two different diameters for the roundels.

The optical performance of signal heads in use is a function of lens soiling, mirror soiling and a decrease of luminous flux from the lamp. To maintain the performance of the signal heads during service, it is important to ensure that after lamp replacement and cleaning of lens and mirror the light output is restored to as near 100 % as possible and never lower than 80 % of the declared specified performance(s).

This European Standard does not require limits for the recognition of red or green signals with reduced luminous intensities operating in a failure mode. These limits depend on the surrounding lights (on or off) and on the situation. However, for a simple rule a red signal is considered as failed if the luminous intensity in the reference axes is $I \leq 10$ cd, and a green signal is considered as being in operation if the luminous intensity is $I \geq 0{,}05$ cd.

The working environment for signal heads is relatively harsh and equipment that is deemed "fit for purpose" is expected to last in this exposed, corrosive environment for a minimum of 10 years. It is essential that all materials and manufacturing processes take this into account. The supplier should detail all steps taken to comply with this clause.

For devices randomly selected from series production it is important that the requirements as to minimum luminous intensity of the light emitted are in each relevant direction of the minimum values prescribed.

1 Scope

This European Standard only applies to red, yellow and green signal lights for road traffic with 200 mm and 300 mm roundels. It defines the requirements for the visual, structural, environmental performances and testing of signal heads for pedestrian and road traffic use. Portable signal lights are specifically excluded from the scope of this European Standard.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12767, *Passive safety of support structures for road equipment — Requirements and test methods*

EN 12899-1:2001, *Fixed, vertical road traffic signs — Part 1: Fixed signs*

EN 50293, *Electromagnetic compatibility — Road traffic signal systems — Product standard*

EN 60068-2-1, *Environmental testing — Part 2: Tests — Test A: Cold (IEC 60068-2-1:1990)*

EN 60068-2-2, *Basic environmental testing procedures — Part 2: Tests — Test B: Dry heat (IEC 60068-2-2:1974 + IEC 60068-2-2A:1976)*

EN 60068-2-5, *Environmental testing — Part 2: Tests — Test Sa: Simulated solar radiation at ground level (IEC 60068-2-5:1975)*

EN 60068-2-14, *Environmental testing — Part 2: Tests — Test N: Change of temperature (IEC 60068-2-14:1984 + A1:1986)*

EN 60068-2-30, *Environmental testing — Part 2: Tests — Test Db and guidance: Damp heat, cyclic (12+12-hour cycle) (IEC 60068-2-30:1980 + A1:1985)*

EN 60068-2-64, *Environmental testing — Part 2: Test methods — Test Fh: Vibration, broad-band random (digital control) and guidance (IEC 60068-2-64:1993 + Corrigendum 1993)*

EN 60529, *Degree of protection provided by enclosures (IP-Code) (IEC 60529:1989)*

EN 60598-1:2004, *Luminaries — Part 1: General requirements and tests (IEC 60598-1:2003 + Corrigendum 2004, modified)*

EN ISO 9001, *Quality management systems – Requirements (ISO 9001:2000)*

CIE 17-4:1987, *International lighting vocabulary*

CIE 69, *Methods of characterizing illuminance meters and luminance meters — Performance, characteristics and specifications*

HD 638, *Road traffic signal systems*